



**I. COURSE DESCRIPTION:**

This course uses the Python programming language to teach programming concepts and problem solving skills, without assuming any previous programming experience. The course will start with an introduction to the fundamentals of data storage, input and output, control structures, functions, file I/O and objects that are create from standard library classes. CICE students, with assistance from a learning specialist, will have plenty of hands on experience writing Python code.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course, the CICE student, with the assistance of a Learning Specialist will demonstrate a basic ability to:

**1. Introduction to Computers and Programming****Potential Elements of the Performance:**

- Introduction.
- Hardware and Software
- How computers store data
- Pseudocode and flowcharting
- How a program works
- Using Python.

## 2. Input, Processing, and Output

### Potential Elements of the Performance:

- Designing a program
- Input, processing, and output
- Display output with the *print* Function.
- Comments
- Variables
- Reading input from the keyboard
- Performing calculations

## 3. Decision Structures and Boolean Logic

### Potential Elements of the Performance:

- The *if* statement
- The *if-else* statement
- Comparing Strings
- Nested Decision structures and the *if-else-if-else* statement
- Logical operators
- Boolean Variables

## 4. Repetition Structures

### Potential Elements of the Performance:

- Introduction to Repetition structures
- The *while* loop: a conditional-controlled loop
- The *for* loop: a count-controlled loop
- Calculating a running total
- Sentinels
- Input validation loops
- Nested loops

## 5. User-Defined Functions

### Potential Elements of the Performance:

- Introduction to Functions
- Defining and Calling a Function

- Designing a program to use Functions
- Local variables
- Passing Arguments to Functions
- Global variables and global constants

## 6. Value-Returning Functions and Modules

### Potential Elements of the Performance:

- Introduction to value-returning Functions: generating random numbers
- Writing your own value-returning Functions
- The *math* module
- Storing Functions in Modules

## 7. Lists and Tuples

### Potential Elements of the Performance:

- Sequences
- Introduction to Lists
- List Slicing
- Finding Items in Lists with the IN operator
- List Methods and Useful Built-in Functions
- Copying Lists
- Two-Dimensional Lists
- Tuples

### **III. TOPICS:**

1. Introduction to Computers and Programming
2. Input, Processing, and Output
3. Decision Structures and Boolean Logic
4. Repetition Structures
5. User-Defined Functions
6. Value-Returning Functions and Modules
7. Lists and Tuples

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Starting Out with PYTHON, 3<sup>rd</sup> Edition Tony Gaddis  
 ISBN-13: 978-0-13-358273-4

**V. EVALUATION PROCESS/GRADING SYSTEM:**

Tests	70%
Assignments	<u>30%</u>
	100%

All tests and assignments will be completed with the assistance of the Learning Specialist. Any modifications to the tests and assignments will be proposed by the Learning Specialist and are subject to approval from the professor

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<b><i>Grade Point Equivalent</i></b>
A+	90 – 100%	
A	80 – 89%	4.00
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	Below 50%	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	

NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

## VI. OTHER EVALUATION CONSIDERATIONS

1. In order to pass this course the student must obtain an overall test/quiz average of **50%** or better, as well as, an overall assignment average of **50%** or better. A student who is not present to write a particular test/quiz, and does not notify the professor beforehand of their intended absence, may be subject to a zero grade on that test/quiz.
2. There will be **no** supplemental or make-up quizzes/tests in this course unless there are extenuating circumstances.
3. Assignments must be submitted by the due date according to the specifications of the professor. Late assignments will normally be given a mark of zero. Late assignments will only be marked at the discretion of the professor in cases where there were extenuating circumstances.
4. Any assignment/projects submissions, deemed to be copied, will result in a **zero** grade being assigned to **all** students involved in that particular incident.
5. It is the responsibility of the student to ask the professor to clarify any assignment requirements.
6. The professor reserves the right to modify the assessment process to meet any changing needs of the class.

## VII. SPECIAL NOTES

### Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session. *It is the departmental policy that once the classroom door has been closed, the learning process has begun. Late arrivers may not be granted admission to the room.*

Absences due to medical or other unavoidable circumstances should be discussed with the professor, otherwise a penalty may be assessed. The penalty depends on course hours and will be applied as follows:

<b>Course Hours</b>	<b>Deduction</b>
5 hrs/week (75 hrs)	1.0% /hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2.0% /hr
2 hrs/week (30 hrs)	3.0% /hr

Final penalties will be reviewed and assessed at the discretion of the professor.

### **Addendum:**

Further modifications may be required as needed as the semester progresses based on individual student(s) abilities and must be discussed with and agreed upon by the instructor.

## VIII. COURSE OUTLINE ADDENDUM

The provisions contained in the addendum located in D2L and on the portal form part of this course outline.

**CICE Modifications:****Preparation and Participation**

1. A Learning Specialist will attend class with the student(s) to assist with inclusion in the class and to take notes.
2. Students will receive support in and outside of the classroom (i.e. tutoring, assistance with homework and assignments, preparation for exams, tests and quizzes.)
3. Study notes will be geared to test content and style which will match with modified learning outcomes.
4. Although the Learning Specialist may not attend all classes with the student(s), support will always be available. When the Learning Specialist does attend classes he/she will remain as inconspicuous as possible.

**A. Tests may be modified in the following ways:**

1. Tests, which require essay answers, may be modified to short answers.
2. Short answer questions may be changed to multiple choice or the question may be simplified so the answer will reflect a basic understanding.
3. Tests, which use fill in the blank format, may be modified to include a few choices for each question, or a list of choices for all questions. This will allow the student to match or use visual clues.
4. Tests in the T/F or multiple choice format may be modified by rewording or clarifying statements into layman's or simplified terms. Multiple choice questions may have a reduced number of choices.

**B. Tests will be written in CICE office with assistance from a Learning Specialist.*****The Learning Specialist may:***

1. Read the test question to the student.
2. Paraphrase the test question without revealing any key words or definitions.
3. Transcribe the student's verbal answer.
4. Test length may be reduced and time allowed to complete test may be increased.

**C. Assignments may be modified in the following ways:**

1. Assignments may be modified by reducing the amount of information required while maintaining general concepts.
2. Some assignments may be eliminated depending on the number of assignments required in the particular course.

***The Learning Specialist may:***

1. Use a question/answer format instead of essay/research format
2. Propose a reduction in the number of references required for an assignment
3. Assist with groups to ensure that student comprehends his/her role within the group
4. Require an extension on due dates due to the fact that some students may require additional time to process information
5. Formally summarize articles and assigned readings to isolate main points for the student
6. Use questioning techniques and paraphrasing to assist in student comprehension of an assignment

**D. Evaluation:**

Is reflective of modified learning outcomes.